WHAT IS CLAIMED IS:

1.   1.   A system for dynamic sampling comprising:

2   an input receiving an analog video signal; and

3   a sampling mechanism coupled to the input and

4   sampling the analog video signal utilizing a variable

5   sampling rate modulated for segments of the analog video

6   signal based upon spatial frequencies within the image

7   content contained within the analog video signal.

1   2.   The system as set forth in Claim 1 wherein a

2   first sampling rate is employed for a first segment of the

3   analog video signal containing content having a first

4   highest spatial frequency and a second sampling rate

5   greater than the first sampling rate is employed for a

6   segment of the analog video signal containing content

7   having a second highest spatial frequency greater than the

8   first highest spatial frequency.

1   3.   The system as set forth in Claim 2 wherein the

2   sampling mechanism further comprises:

3   a plurality of analog filters each receiving the

4   analog video signal;

5   a plurality of analog-to-digital converters each

6   coupled to one of the plurality of analog filters and

7   having settings based upon the corresponding analog filter,

8   each analog-to-digital converter sampling an output of the

9   corresponding analog filter; and

10   combination logic selecting the output of one of

11   the analog-to-digital converters for each segment of the

12   analog video signal and combining the selected outputs.

1   4.   The system as set forth in Claim 2 wherein the

2   sampling mechanism further comprises:

3   a   single   analog-to-digital   converter   receiving

4   the analog video signal and sampling the analog video

5   signal at a fixed rate;

6   a signal analysis unit analyzing samples from the

7   converter to select a sampling rate for each segment of the

8   analog video signal; and

9   a downsampling unit retaining samples from the

10 converter for each segment of the analog video signal based

11 upon the corresponding sampling rate selected by the signal

12 analysis unit.

1   5.   The system as set forth in Claim 2 wherein the

2   sampling mechanism further comprises:

3   a first analog-to-digital converter receiving the

4   analog video signal and sampling the analog video signal at

5   a fixed rate sufficient to detect all spatial frequencies

6   of interest within the content contained within the analog

7   video signal;

8   a second analog-to-digital converter receiving

9   the analog video signal and sampling the analog video

10   signal at a variable rate; and

11   a signal analysis unit analyzing samples from the

12   first converter to select a sampling rate for each segment

13   of the analog video signal and adjusting the sampling rate

14   of the second converter.

1   6.   The system as set forth in Claim 2 wherein the

2   sampling rate for each segment of the analog video signal

3   is at least twice a highest spatial frequency within

4   content contained by the corresponding segment of the

5   analog video signal.

1   7.   The system as set forth in Claim 2 wherein the

2   sampling mechanism samples the analog video signal at a

3   first rate and transmits samples for at least one segment

4   of the analog video signal at second rate different than

5   the first rate.

1   8.   A video receiver comprising:

2   an input receiving an analog video signal;

3   an output transmitting a digital video signal to

4   a display, a storage system, or another device; and

5   a sampling mechanism coupled to the input and

6   sampling the analog video signal utilizing a variable

7   sampling rate modulated for segments of the analog video

8   signal based upon spatial frequencies within the image

9   content contained within the analog video signal.

1   9.   The video receiver as set forth in Claim 8

2   wherein a first sampling rate is employed for a first

3   segment of the analog video signal containing content

4   having a first highest spatial frequency and a second

5   sampling rate greater than the first sampling rate is

6   employed for a segment of the analog video signal

7   containing content having a second highest spatial

8   frequency greater than the first highest spatial frequency.

1   10. The video receiver as set forth in Claim 9

2   wherein the sampling mechanism further comprises:

3   a plurality of analog filters each receiving the

4   analog video signal;

5   a plurality of analog-to-digital converters each

6   coupled to one of the plurality of analog filters and

7   having settings based upon the corresponding analog filter,

8   each analog-to-digital converter sampling an output of the

9   corresponding analog filter; and

10   combination logic selecting the output of one of

11   the analog-to-digital converters for each segment of the

12   analog video signal and combining the selected outputs.

1   11. The video receiver as set forth in Claim 9

2   wherein the sampling mechanism further comprises:

3   a single analog-to-digital converter receiving

4   the analog video signal and sampling the analog video

5   signal at a fixed rate;

6   a signal analysis unit analyzing samples from the

7   converter to select a sampling rate for each segment of the

8   analog video signal; and

9   a downsampling unit retaining samples from the

10   converter for each segment of the analog video signal based

11   upon the corresponding sampling rate selected by the signal

12   analysis unit.

1　　　　12.　The video receiver as set forth in Claim 9

2　　wherein the sampling mechanism further comprises:

3　　　　　　a first analog-to-digital converter receiving the

4　　analog video signal and sampling the analog video signal at

5　　a fixed rate sufficient to detect all spatial frequencies

6　　of interest within the content contained within the analog

7　　video signal;

8　　　　　　a second analog-to-digital converter receiving

9　　the analog video signal and sampling the analog video

10　　signal at a variable rate; and

11　　　　　　a signal analysis unit analyzing samples from the

12　　first converter to select a sampling rate for each segment

13　　of the analog video signal and adjusting the sampling rate

14　　of the second converter.

13.　The video receiver as set forth in Claim 9

2　　wherein the sampling rate for each segment of the analog

3　　video signal is at least twice a highest spatial frequency

4　　within content contained by the corresponding segment of

5　　the analog video signal.

1   14. The video receiver as set forth in Claim 9

2   wherein the sampling mechanism samples the analog video

3   signal at a first rate and transmits samples for at least

4   one segment of the analog video signal at second rate

5   different than the first rate.

1   15. A method dynamic sampling comprising:

2   receiving an analog video signal; and

3   sampling the analog video signal utilizing a

4   variable sampling rate modulated for segments of the analog

5   video signal based upon spatial frequencies within the

6   image content contained within the analog video signal.

1   16. The method as set forth in Claim 15 wherein a

2   first sampling rate is employed for a first segment of the

3   analog video signal containing content having a first

4   highest spatial frequency and a second sampling rate

5   greater than the first sampling rate is employed for a

6   segment of the analog video signal containing content

7   having a second highest spatial frequency greater than the

8   first highest spatial frequency.

1   17.   The method as set forth in Claim 16 further

2   comprising:

3   receiving the analog video signal at each of a

4   plurality of analog filters;

5   sampling an output of each analog filter

6   utilizing an analog-to-digital converter coupled to the

7   corresponding analog filter and having settings based upon

8   the corresponding analog filter; and

9   selecting the output of one of the analog-to-

10   digital converters for each segment of the analog video

11   signal and combining the selected outputs.

     18.   The method as set forth in Claim 16 further

     comprising:

              receiving the analog video signal at a single

     analog-to-digital converter sampling the analog video

5   signal at a fixed rate;

6   analyzing samples from the converter to select a

7   sampling rate for each segment of the analog video signal;

8   and

9   retaining samples from the converter for each

10   segment of the analog video signal based upon the

11   corresponding selected sampling rate.

1   19.   The method as set forth in Claim 16 further

2   comprising:

3   receiving the analog video signal at a first

4   analog-to-digital converter sampling the analog video

5   signal at a fixed rate sufficient to detect all spatial

6   frequencies of interest within the content contained within

7   the analog video signal;receiving the analog video signal

8   at a second analog-to-digital converter sampling the analog

9   video signal at a variable rate; and

10   analyzing samples from the first converter to

11   select a sampling rate for each segment of the analog video

12   signal and adjusting the sampling rate of the second

13   converter.

     20.   The method as set forth in Claim 16 wherein the

     sampling rate for each segment of the analog video signal

3   is at least twice a highest spatial frequency within

4   content contained by the corresponding segment of the

5   analog video signal.